

CLAIM LISTING

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A spinal prosthesis system, to replace a natural facet joint between adjoining inferior and superior vertebral bodies comprising:

a caudal prosthesis ~~accommodating fixation to the inferior vertebral body at or near a pedicle and without support by a lamina, having a pair of pedicle anchors for coupling to an inferior vertebral body, the caudal prosthesis~~ including an artificial caudal facet joint structure adapted and configured to replace all or a portion of a caudal portion of the natural facet joint, and comprising a pair of caudal bearing surfaces;

a cephalad prosthesis ~~accommodating fixation to the superior vertebral body at or near a pedicle and without support by a lamina, having a second pair of pedicle anchors for coupling to a superior vertebral body, the cephalad prosthesis~~ including an artificial cephalad facet joint structure adapted and configured to replace all or a portion of a cephalad portion of the natural facet joint and to articulate with the artificial caudal facet joint structure, comprising a pair of cephalad bearing surfaces; and

~~thereby forming an artificial facet joint formed between the adjoining vertebral bodies by articulation of the artificial caudal facet joint structure with the artificial cephalad facet joint structure.~~

2.-26. (Canceled)

27. (Original) A prosthesis system according to claim 1 wherein at least one of the artificial facet joint structures is made of at least one selected prosthetic material.

28. (Original) A prosthesis system according to claim 27 wherein the selected prosthetic material includes polyethylene, rubber, tantalum, titanium, chrome cobalt, surgical steel, bony in-growth material, ceramic, artificial bone, or a combination thereof.

29. (Canceled)

30. (Currently Amended) A prosthesis system according to claim [[29]] 1 wherein the ~~fastening element includes~~ pedicle anchors include a screw installed within the vertebral body at or near a pedicle.

31. (Currently Amended) A prosthesis system according to claim [[29]] 1 wherein the ~~fastening element includes~~ pedicle anchors include a stem installed within the vertebral body at or near a pedicle.

32. (Currently Amended) A prosthesis system according to claim [[29]] 1 wherein the ~~fastening element including~~ pedicle anchors include means for resisting rotation after installation in the vertebral body.

33. (Original) A prosthesis system according to claim 1 wherein at least one of the caudal and cephalad prosthesis is fixed to the vertebral body by an adhesive or cement.

34. (Original) A prosthesis system according to claim 1 wherein at least one of the caudal and cephalad prosthesis includes a bony in-growth material.

35.-38. (Canceled)

39. (Withdrawn) A method of replacing a natural facet joint between adjoining inferior and superior vertebral bodies using the prosthesis system defined in claim 1 to provide improved support for the spinal column, the method comprising the steps of

(i) removing from the inferior vertebral body all or a portion of a caudal portion of the natural facet joint,

(ii) removing from the superior vertebral body all or a portion of a cephalad portion of the natural facet joint,

(iii) fixing the caudal prosthesis as defined in claim 1 to the inferior vertebral body to replace the removed caudal portion of the natural facet joint with the artificial caudal facet joint structure, and

(iv) fixing the cephalad prosthesis as defined in claim 1 to the superior vertebral body to replace the removed cephalad portion of the natural facet joint with the artificial cephalad facet joint structure, and

(v) affecting articulation between the artificial caudal facet joint structure and the artificial cephalad facet joint structure to create an artificial facet joint between the adjoining vertebral bodies.

40. (Withdrawn) A method according to claim 39 further including a step of removing at least some of the lamina from the inferior vertebral body.

41. (Withdrawn) A method according to claim 39 further including a step of removing at least part of a mamillary process from the inferior vertebral body.

42. (Withdrawn) A method according to claim 39 further including a step of removing at least part of a transverse process from the inferior vertebral body.

43. (Withdrawn) A method according to claim 39 further including a step of removing at least part of a pedicle from the inferior vertebral body.

44. (Withdrawn) A method according to claim 39 further including a step of removing at least part of an accessory process from the superior vertebral body.

45. (Withdrawn) A method according to claim 39 further including a step of removing at least part of a transverse process from the superior vertebral body.

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46. (Withdrawn) A method according to claim 39 further including a step of removing at least part of a pedicle from the superior vertebral body.